CLAIMS:

1. A full-color organic display for displaying a color image, comprising an array of pixels arranged in repeating patterns, wherein each pixel has red, green, and blue light-emitting subpixels, and wherein each red and green light-emitting subpixel contains only one EL unit, while each blue light-emitting subpixel contains more than one vertically stacked EL unit.

2. The full-color organic display of claim 1, wherein the number of the vertically stacked blue EL units is in a range of from 2 to 5.

3. The full color organic display of claim 2 further including from 0 to 4 intermediate connector(s) for the blue EL units.

4. The full-color organic display of claim 2, wherein the number of the vertically stacked EL units is 2, and each blue light-emitting subpixel comprises:

a) an anode;

b) a first blue EL unit disposed over the anode;

c) a second blue EL unit disposed over the first blue EL unit; and

e) a cathode disposed over the second blue EL unit.

5. The full-color organic display of claim 2, wherein the number of the vertically stacked EL units is 2, and the blue light-emitting subpixel includes:

a) an anode;

b) a first blue EL unit disposed over the anode;

c) an intermediate connector disposed in contact with the first blue EL unit;

d) a second blue EL unit disposed in contact with the intermediate connector; and

e) a cathode disposed over the second blue EL unit.

6. The full-color organic display of claim 2, wherein the blue EL unit includes:

a) a first hole-transporting layer;

b) a second hole-transporting layer disposed in contact with the first hole-transporting layer;

c) a blue light-emitting layer disposed over the second hole-transporting layer for producing blue light in response to hole-electron recombination;

d) a first electron-transporting layer disposed over the light-emitting layer; and

e) a second electron-transporting layer disposed in contact with the first electron-transporting layer.

7. The full-color organic display according to claim 6, wherein the first hole-transporting layer is a p-type doped organic layer.

8. The full-color organic display according to claim 6, wherein the first hole-transporting layer is a metal compound layer having a p-type semiconducting property.

9. The full-color organic display according to claim 6, wherein the second electron-transporting layer is an n-type doped organic layer.

10. The full-color organic display according to claim 6, wherein the second electron-transporting layer is a metal compound layer having an n-type semiconducting property.

11. The full-color organic display according to claim 3, wherein the intermediate connector contains an inorganic semiconducting layer having an optical energy band gap less than 4.0 eV.

12. The full-color organic display according to claim 3, wherein the intermediate connector contains WO_3, MoO_3, In_2O_3, SnO_2, PbO, Sb_2O_3, SnSe, SnS, ZnSe, ZnS, VO_2, or V_2O_5.

13. The full-color organic display according to claim 3, wherein the intermediate connector contains a metallic layer having a work function higher than 4.0 eV.

14. The full-color organic display according to claim 3, wherein the intermediate connector contains a layer of Al, Ag, Au, Pd, or Pt.

15. The full-color organic display according to claim 1 wherein the number of light-emitting subpixels of each color in each pixel is determined according to the relative human visual frequency response to the color and the patterning complexity.

16. The full-color organic display according to claim 15 wherein each pixel includes one red light-emitting subpixel, a plurality of green light-emitting subpixels, and one blue light-emitting subpixel.

17. The full-color organic display of claim 1 wherein the surface emitting area of a light-emitting subpixel of a particular color is determined according to the efficiency of the light-emitting subpixel, the lifetime of the light-emitting subpixel, the number of light-emitting subpixels of the color in each pixel, the relative contribution of the color of the light-emitting subpixel to a desired white point of the display, and the patterning complexity.

18. The full-color organic display of claim 17 wherein each light-emitting subpixel has a different surface emitting area.

19. The full-color organic display of claim 17 wherein each light-emitting subpixel has the same surface emitting area.

20. The full-color organic display of claim 1 wherein the shape of surface emitting area of each light-emitting subpixel in each pixel is determined according to the relative human visual frequency response to the color, the surface emitting area of the light-emitting subpixels, and the patterning complexity.

21. The full-color organic display of claim 20 wherein each light-emitting subpixel has differently shaped surface emitting area.

22. The full-color organic display of claim 20 wherein each light-emitting subpixel has the same shaped surface emitting area.